



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,283	09/29/2003	Yoshiharu Hasegawa	Fukuda Case 43	3119
23474	7590	01/11/2006	EXAMINER	
FLYNN THIEL BOUTELL & TANIS, P.C. 2026 RAMBLING ROAD KALAMAZOO, MI 49008-1631				MORILLO, JANELL COMBS
		ART UNIT		PAPER NUMBER
		1742		

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/674,283	HASEGAWA ET AL.
	Examiner	Art Unit
	Janelle Combs-Morillo	1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 14 October 2005.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-13 is/are pending in the application.

4a) Of the above claim(s) 5 is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-4 and 6-13 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. _____.
- Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____ .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 6, 9, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by JP2001-026831A (JP'831).

JP'831 teaches an aluminum alloy for heat exchanger piping (abstract) consisting of (in weight%): 0.05-0.45% Mn, 0.03-0.15% Cu, 0.05-0.25% Ti, 0.25-0.70% Fe, and $\leq 0.10\%$ Si, balance aluminum (abstract), overlaps or touches the boundary of the presently claimed alloying ranges. Example #9 consists of: 0.32% Fe, 0.32% Mn, 0.07% Cu, 0.20% Ti, balance aluminum (see Table 1), and wherein said alloy exhibits a crystal grain size of 48 μm (see Table 2), as well as good formability (see [0022]) and good corrosion resistance (see corrosion results in Table 2), which falls within the alloying ranges of instant claims 6, 9, and 10.

JP'831 does not mention Ti based compounds with a grain size of 10 μm do not exist as an aggregate of two or more serial compounds in a single crystal grain (instant claim 6). However, because JP'831 teaches an example within the presently claimed alloying ranges, as well as a substantially similar method of extruding said alloy into a piping material and further annealing, then substantially the same microstructural characteristics, such as aggregates of Ti compounds, are inherently expected to occur. Therefore it is held that JP'831 anticipates the presently claimed invention.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sircar (US 5,976,278).

Sircar teaches an aluminum alloy with improved combinations of corrosion resistance and formability (abstract), wherein said alloy comprises (in weight%): $\leq 0.03\%$ Cu, 0.1-1.2% Mn, 0.03-0.35% Ti, up to 1% Mg, $\leq 0.01\%$ Ni, 0.05-1% Zn, $\leq 0.3\%$ Zr, $\leq 0.5\%$ Fe, $\leq 0.5\%$ Si, $\leq 0.2\%$ Cr (column 4 lines 27-33), which substantially overlaps the presently claimed alloying ranges in claims 1-4. Sircar teaches said alloy can be extruded into a tube (column 7 lines 10-17), and is especially useful for heat exchanger tubing (column 7 lines 26-28). Though Sircar mentions a finer grain size can be achieved (column 6 lines 4—42), Sircar does not mention the average grain size or the degree the Ti based compounds are aggregated. However, because Sircar teaches a substantially overlapping alloy composition, as well as a substantially similar method of working said alloy into a tube, then substantially the same microstructural features (such as average grain size and the degree of Ti compound aggregates) are also expected to occur. Therefore, it is held that Sircar has created a *prima facie* case of obviousness of the presently claimed invention.

5. Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 04-285139A (JP'139A).

JP'139 teaches an aluminum alloy pipe material suitable for radiators, said alloy containing (in weight%): 0.3-1.5% Mn, 0.1-0.6% Cu, 0.06-0.35% Ti, 0.1-0.35% Fe, 0.05-0.25% Si, up to 0.4% Mg, balance aluminum (abstract), which overlaps the presently claimed alloying ranges. Additionally, JP'139 teaches that the grain size is $\leq 100 \mu\text{m}$ (see Table 2). JP'139 does not mention the degree the Ti based compounds are aggregated. However, because JP'139 teaches a substantially overlapping alloy composition, as well as a forming said alloy into a tube for heat exchangers, then substantially the same microstructural features (such as average grain size and the degree of Ti compound aggregates) are also expected to occur. Therefore, it is held that JP'171 has created a *prima facie* case of obviousness of the presently claimed invention.

6. Claims 1-3, 7, 8, 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP2001-026831A (JP'831).

As stated above, JP'831 teaches an aluminum alloy for heat exchanger piping (abstract) consisting of (in weight%): 0.05-0.45% Mn, 0.03-0.15% Cu, 0.05-0.25% Ti, 0.25-0.70% Fe, optionally 0.05-0.25% Zr, and $\leq 0.10\%$ Si, balance aluminum (abstract), overlaps or touches the boundary of the presently claimed alloying ranges (cl. 1-3, 7, 8, 11-13). JP'831 mentions the average grain size is preferable $\leq 100 \mu\text{m}$ (abstract).

JP'831 does not mention Ti based compounds with a grain size of $10 \mu\text{m}$ do not exist as an aggregate of two or more serial compounds in a single crystal grain (instant claim 1, 11). However, because JP'831 teaches a substantially overlapping alloy composition, then substantially the same microstructural features (such as the degree of Ti compound aggregates)

are also expected to occur. Therefore, it is held that JP'831 has created a *prima facie* case of obviousness of the presently claimed invention.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP'831 in view of Iwai et al (US 5,021,106).

JP'831 does not mention the addition of Zn or In. However, Iwai teaches that 0.04-0.1% In and/or 0.1-2.0% Zn can be added to brazeable aluminum alloys used for heat exchanger parts in order to increase corrosion resistance. It would have been obvious to one of ordinary skill in the art to add In or Zn as taught by Iwai to the Al-Mn alloy taught by JP'831 because Iwai teaches said addition increases corrosion resistance.

Response to Amendment/Arguments

8. In the response filed on October 14, 2005, applicant amended claims 1 and 6, added new claims 11-13, and submitted various arguments traversing the rejections of record.

Applicant's argument that the present invention is allowable over the prior art of record because the piping material of the invention cannot be obtained by a method of hot rolling and reducing as taught by Sircar has not been found persuasive. Once a reference teaching product appearing to be substantially identical is made the basis of a rejection, and the examiner presents evidence or reasoning tending to show inherency, the burden shifts to the applicant to show an unobvious difference. "[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on inherency' under 35 U.S.C. 102, on *prima facie* obviousness' under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same...[footnote omitted]." The

burden of proof is similar to that required with respect to product-by-process claims. In re Fitzgerald, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)), see MPEP 2112. In re Schreiber, 128 F.3d 1473, 1478, 44 USPQ2d 1429, 1432 (Fed.Cir.1997). While applicants may compare the claimed invention with prior art that is more closely related to the invention than the prior art relied upon by the examiner, In re Holladay, 584 F.2d 384, 199 USPQ 516 (CCPA 1978), MPEP 716.02(e), it is unclear that the inferior results of alloys 50-53 in Tables 7 and 8 represent art that is closer than the applied prior art. “Applicant’s reliance on examples in the specification disclosures as showing unexpectedly superior results is misplaced, since examples are manifestly not designed to compare, and do not compare, claimed subject matter with closest prior art” Ex parte Beck, 9 USPQ2d 2000 (BPAI, 1987). Applicant has not clearly shown that the prior art does not also exhibit the presently claimed degree of aggregation of the Ti based compounds.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 8:30 am- 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JCM 
January 8, 2006

ROY KING 
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700